CHAPTER 9

MARINE WEATHER BROADCASTS

9.1. General. The Department of Transportation's United States Coast Guard (USCG) broadcasts forecast products that include information on tropical cyclones issued by the National Hurricane Center and the Central Pacific Hurricane Center. The broadcast of these products supports the U.S. participation in the Global Maritime Distress and Safety System, which provides the communications support to the International Maritime Organization's (IMO) global search and rescue plan.

9.2. Global Maritime Distress and Safety System (GMDSS). The goals of GMDSS are to provide more effective and efficient emergency and safety communications, and to disseminate maritime safety information to all ships on the world's oceans regardless of location or atmospheric conditions. These goals are defined in the International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended in 1988. GMDSS is based upon a combination of satellite and terrestrial radio services and has changed international distress communications from being primarily ship-to-ship based to ship-to-shore (rescue coordination center) based. GMDSS provides for automatic distress alerting and locating, and requires ships to receive broadcasts of maritime safety information which could prevent a distress from happening in the first place. GMDSS consists of many separate systems which are being implemented in a coordinated and agreed-upon manner. The NWS participates directly in the GMDSS by preparing weather forecasts and warnings for broadcast via two primary GMDSS systems--NAVTEX and Inmarsat-C SafetyNET.

9.2.1. NAVTEX. NAVTEX is an international, automated system for instantly distributing maritime navigational warnings, weather forecasts and warnings, search and rescue notices, and similar information to ships. It has been designated by the IMO as the primary means for transmitting coastal urgent marine safety information to ships worldwide. NAVTEX is broadcast from the USCG facilities listed in Table 9.l. Coverage is reasonably continuous along the east, west, and Gulf coasts of the United States, as well as the area around Kodiak, Alaska, Guam, and Puerto Rico. Typical NAVTEX transmissions range from 200-400 nm.

9.2.2. SafetyNET. Satellite systems operated by the International Mobile Satellite Organization (Inmarsat) are an important element of the GMDSS. Inmarsat-C provides ship/shore, shore/ship, and ship/ship store-and-forward data and telex messaging; the capability for sending preformatted messages to a rescue coordination center; and the SafetyNET service. The Inmarsat-C SafetyNET service is a satellite-based worldwide maritime safety information broadcast service of high seas weather warnings, navigational warnings, radionavigation warnings, ice reports and warnings generated by USCG-conducted International Ice Patrol, and other information not provided by NAVTEX.

9.3. Coastal Maritime Safety Broadcasts. In addition to NAVTEX, the USCG and other government agencies broadcast maritime safety information, using a variety of different radio systems to ensure coverage of different ocean areas for which the United States has responsibility and to ensure all ships of every size and nationality can receive this vital safety information.

9.3.1. VHF Marine Radio. The USCG broadcasts nearshore and storm warnings of interest to the mariner on VHF channel 22A (157.1 MHz) following an initial call on the distress, safety, and calling channel 16 (156.8 MHz). Broadcasts are made from over 200 sites, covering the coastal areas of the U.S., including the Great Lakes, major inland waterways, Puerto Rico, Alaska, Hawaii, and Guam. All ships in U.S. waters over 20 meters in length are required to monitor VHF channel 16 and must have radios capable of tuning to the VHF simplex channel 22A. Typical coverage is 25 nm offshore.

9.3.2. Medium Frequency Radiotelephone (Voice). The USCG broadcasts offshore forecasts and storm warnings of interest to mariners on 2670 kHz, after first being announced on the distress, safety, and calling frequency 2182 kHz.

9.3.3. NOAA Weather Radio. The NOAA Weather Radio network continually broadcasts coastal and marine forecasts on frequencies near 162 MHz. Recorded voice broadcasts are in the process of transitioning to voice synthesis. The network provides near-continuous coverage of the coastal U.S., Great Lakes, Hawaii, and populated Alaska coastline. Typical coverage is 25 nm offshore.

9.4. High Seas Broadcasts. NWS high seas weather forecasts and warnings are also available on the following high frequency (HF) broadcasts.

9.4.1. HF Radiotelephone (Voice). Weather forecasts and warnings for the high seas are broadcast over scheduled HF radiotelephone channels from USCG communications stations using a very distinctive and recognizable computer-synthesized voice. Limited offshore forecasts are also available.

9.4.2. HF Radiofacsimile. The USCG broadcasts NWS high seas weather maps from five communications stations--Boston, MA (NMF); Point Reyes, CA (NMC); New Orleans, LA (NMG), Honolulu, HI (KVM-70) (a DOD station); and Kodiak, AK (NOJ). Limited satellite imagery, sea surface temperature maps, and text forecasts are also available.

9.4.3. HF Radiotelex (HF SITOR). High seas forecasts in text format, recognized by the GMDSS, are broadcast over scheduled GMDSS HF narrow-band direct printing channels from USCG communications stations. Limited offshore forecasts are also available.

9.4.4. WWV, WWVH HF Voice (Time Tick). Atlantic high seas warnings are broadcast at 7 and 8 minutes past the hour over WWV (Boulder, CO) on the following HF frequencies: 2.5, 5, 10, 15, and 20 MHz; Pacific high seas warnings are broadcast at 9 minutes past the hour. Pacific high seas warnings are broadcast from 48-51 minutes past the hour over WWVH (Honolulu, HI) at 2.5, 5, 10, and 15 MHz. These are the National Institute of Standards and Technology (NIST) standard time/frequency broadcasts.

9.5. Additional Information. Further information concerning these broadcasts can be found at the following Internet sites--http://www.navcen.uscg.mil/marcomms/marcomms.htm and http://weather.noaa.gov/fax/marine.shtml. In addition, NIMA Publication 117 contains detailed information on USCG radio schedules. This publication is available from your local National Ocean Service chart agent; it can also be ordered by calling 1-800-638-8972 or 301-436-8301 or by visiting the Internet site at http://chartmaker.ncd.noaa.gov. The cost is $18.10.

Table 9-1. U.S. NAVTEX Stations

STATION IDENTIFIERS	LOCATION
NMF	Boston, MA
NMN	Chesapeake, VA
NMA	Miami, FL
NMR	San Juan, PR
NMG	New Orleans, LA
NMC	Point Reyes, CA
NMC	Cambria, CA
NMC	Astoria, WA
NOJ	Kodiak, AL
NMO	Honolulu, HI
NRV	Guam